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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,124

03/31/2004

Daniel C. Carter

AE2003-074

9159

35487

7590

03/22/2006

JOHN D. PIRNOT

ADVANCED ENERGY INDUSTRIES, INC.

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EXAMINER

KACKAR, RAM N

ART UNIT

PAPER NUMBER

1763

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/815,124	<b>Applicant(s)</b> CARTER ET AL.	
	<b>Examiner</b> Ram N. Kackar	<b>Art Unit</b> 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/31/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1 and 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by**

**Corrado et al (US Pub 2003/0001083).**

Corrado et al disclose a self contained sealed enclosure having a substrate of the size of a regular dimensioned production substrate configured for mounting in a sealed semiconductor processing wafer processing chamber (Abstract, paragraph 1 and Fig 1) wherein sensors and other electronics mounted on an electrical connection layer (printed circuit board -Fig-5 and paragraph 11) are configured for monitoring through a window (Paragraph 4). The packaging is disclosed to be protected by EMI shielding and encapsulated (Paragraph 15).

3. **Claims 1-7 and 14 are rejected under 35 U.S.C. 102(e) and 35 U.S.C. 102(a) as being anticipated by Wayne G. Renken (US Pub 2004/0031340).**

Wayne Renken discloses a substrate of silicon (Para 36 and Fig 1-104) of the size of a regular dimensioned production substrate configured for mounting in a plasma wafer processing

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chamber (paragraph 4) wherein sensors and other electronics mounted on an electrical connection layer with passivation layer for protection (Fig 1G) are configured for monitoring and control. Regarding claims 5-7 connection of the sensor to the interconnection layer by wirebonding or direct bonding are equivalent.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corrado et al (US Pub 2003/0001083) in view of Beroz et al (US 6959489).**

Corrado et al disclose a self contained sealed enclosure protected by EMI shielding and encapsulated (Paragraph 15).

Corrado et al do not disclose the details of encapsulation.

Beroz et al disclose the detailed structure of encapsulation (Col 8 lin65 to Col 9 line 14) and teach use of dam to contain flow of encapsulant.

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to have a structure as taught by Beroz et al in order to properly encapsulate the circuitry for its protection.

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**6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corrado et al (US Pub 2003/0001083) or over Wayne G. Renken (US Pub 2004/0031340) in view of Ye et al (US 6807503).**

Corrado et al and Wayne Renken disclose sensors and other electronics mounted on an electrical connection layer configured for monitoring but do not disclose that the electronics could be of specific type of circuitry.

Ye et al disclose sensors of the same type and disclose that the electronics could be specific to the kind of process and environment and could be ASIC (Col 14 lines 14-17).

Therefore it would have been obvious for one of ordinary skill in the art at the time of invention to have an ASIC in order to have a specific type of monitoring and control.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ram N. Kackar whose telephone number is 571 272 1436. The examiner can normally be reached on M-F 8:00 A.M to 5:P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571 272 1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ram Kackar  
Primary Examiner AU 1763